

KUDRA, O. K.

Kudra, O. K. and Serein', F. "The extraction of copper from  
oxidized ores by iron salt solutions," Izvestiya Kiveysk.  
politekhn. in-ta, Vol VIII, 1948 (on Cover: 1949), p. 132-38

SO: U-5241, 17 December 1953, (Latvian "Zinātnei" bykh Stat'ji, No. 24, 1953)

KUDRA, O.

PA 75T20

USSR/Chemistry - Electrolysis  
Chemistry - Nickel Salts

Apr 1948

"The Meaning of the Second Potential in Nickel Salt  
Solutions," O. Kudra and Ye. Gitman, 6 pp

"Zhur Priklad Khimii" Vol XXI, No 4 (pp. 371-77)

Description of a visual method of determining I-V  
curve for various cathode current densities acting  
on nickel salt solutions. Clarifies reasons for  
chemical polarization in simple salt solutions, and  
explains role of anions in this process. Submitted  
2 Jun 1947.

75T20

KUDRA, O. K.

Kudra, O. K. and Chetverikov, A. V. - "On the effect of electrolytes of other ions on the electroprecipitation of metals", Ukr. khim. zhurnal, Vol. XIV, Issue 2, 1949, p. 53-68, - Bibliog: p. 67-68.

SO: U-4392, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

KUDRA, O. K.

USSR/Chemistry - Metallurgy - Jun 50  
Decomposition Potential

"Secondary Decomposition Potentials in Molten  
Salts," O.K. Kudra, E.B. Gitman, Inst. of Gen  
and Inorg. Chem., Acad. Sci. Ukrainian SSR

"Ukrainskiy Khimicheskiy Zhurnal" Vol XVI,  
No 1, pp 128-136

The decomppn potentials of pure molten silver  
halides (AgCl, AgBr, and AgI) are measured  
employing a modified method of taking current-  
voltage curves using various sized cathodes  
and the same anode. Two decomppn potentials,  
2127

for each molten salt, caused by 2 different  
cathode processes, are established. The pres-  
ence of a 2d potential in such simple systems  
cannot be ascribed either to the decomppn of  
the solvent or to gradual dissociation and therefore  
can only be attributed to the decomppn of complex  
ions.

2127

KUDRA, O. K.

USSR/Chemistry - Lithium

Jun 50

"Decomposition Potentials of Acetone Solutions of Lithium Chloride," O.K. Kudra, M.E. Lerner, Inst of Gen and Inorg Chem, Acad Sci Ukrainian SSR

"Ukrainskiy Khimicheskiy Zhurnal" Vol XVI, No 1, pp 137-148

The decompn potentials of acetone solns of lithium chloride in the concn range of 0.004 to 3.8% LiCl at various cathode currents are detd. The presence of 2 decompn potentials in all of the solns investigated was established: the 1st (low)

21298

Potential corresponds to the deposition of dense metal, and the 2d (high) corresponds to formation of a porous, black deposit. It is shown that the 2d potential is not connected with decompn of the solvent. From changes in the 2d potential depending on the concn, temp and addn of water, it follows that this potential results from decompn at the cathode of complex cations of the type:

$$[\bar{Li}_n \neq 1Cl_n] \text{ or } [\bar{Li}_n \neq 1C_n^+CH_3COO^-]^-$$

The process of electrodeposition of lithium from acetone solns is clarified, and the optimum concn and voltage ranges are established.

21298

KUDRA, O. K.

Jun 50

USSR/Chemistry - Lithium

"The Decomposition Potentials of Lithium Chloride in Isobutyl and Isomyl Alcohols," O.K. Kudra, M.Z. Lerner, Inst of Gen and Inorg Chem, Acad Sci Ukrainian SSR

"Ukrainskiy Khimicheskiy Zhurnal" Vol XVI, No 1,  
pp 149-161

The decom. potentials of lithium chloride in isobutyl and isomyl alcs are measured by a modified method of taking current-voltage curves which allows the cathode processes to be made apparent separately. The presence of 3 decom. potentials is established. The 1st (low) potential is the

212T9

usual one for lithium, corresponding to the deposition of the dense metal; the 2d (medium) corresponds to a black, porous cathode deposit, and the 3d (high) is tied in with the decompo. of complex cations in a manner similar to the 2d. The obtained results and conclusions agree well with other physicochemical properties of the system studied.

212T9

KUDRA, O. K.

JUN 50

## USSR/Chemistry - Lithium

"The Decomposition Potentials for Pyridine Solutions of Lithium Chloride," O.K. Kudra, M.E. Lerner, Inst of Gen and Inorg Chem, Acad Sci Ukrainian SSR "Ukrainian Khimicheskiy Zhurnal" Vol XVI, No 1, pp 162-172

The decompo potentials of pyridine solns of lithium chloride at various levels of cathode currents was studied and the presence of 3 decompo potentials established. The 1st, ordinary one corresponds to the deposition of dense metal and the 2 higher ones to

212710

a black, porous cathode deposit. It is shown that in the system LiCl - C<sub>5</sub>H<sub>5</sub>N there exists a complex equil between simple lithium ions and 2 types of complex cations with different levels of solvation, the concns of which changes with different concns and temps. In connection with the good complex forming properties of pyridine as a solvent, there arise, at definite solvent concns, favorable conditions for sharply delimiting zones of the dense and the porous cathode deposits. These zones then show great difference in values between the lower and the higher decompo potentials. The concns corresponding to the most favorable conditions for getting dense, light gray lithium deposits are given.

212710

KUDRA, O.K.; TUROV, P.P.

Determination of the relationship of current density to time in water and  
acetone solutions. Ukrainian. Khim. Zhur. 16, 242-53 '50. (MLRA 4:2)  
(CA 47 no.22:12052 '53)

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000827120013-7

USSR

Determination of second cathodic potentials by a direct method. O. K. Kudra and E. P. Shchukina. Inorg. Chem. Ukr. SSR, 1984, No. 1, p. 11-14. Atom. Zvezda, 1984, No. 1, p. 11-14.

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000827120013-7"

KUDRA, O.K.; GITMAN, Ye.B.; SHILAK, N.S.

Relation between current density, time, and concentration in electro-  
precipitation of lead. Ukrains. Khim. Zhur. 16, No.5, 477-83 '50. (MLRA 6:4)  
(CA 47 no.22:12054 '53)

1. Inst. Gen. Inorg. Chem., Acad. Sci. Ukr. S.S.R., Kiev.

KUDRA, O.K.; GITMAN, Ye.B; SHILAK, N.S.

Relation between concentration, current density, and time in electroprecipitation of cobalt. Ukrains. Khim. Zhur. 16, No.5, 484-91 '50. (MLRA 6:4)  
(CA 47 no.22:12053 '53)

1. Inst. Gen. Inorg. Chem., Acad. Sci. Ukr. S.S.R., Kiev.

KUDRA, O.K.; GITMAN, Ye.B.

Effect of concentration, current density, and time on electroprecipitation  
of spongy silver. Ukrain. Khim. Zhur. 17, 890-901 '51. (MLRA 6:4)  
(CA 47 no.22:12058 '53)

1. Inst. Gen. and Inorg. Chem., Acad. Sci. Ukr. S.S.R., Kiev.

KUDRA, O. K.

1.07K

USSR/Chemistry - Cadmium

Apr 51

"Decomposition Potentials of Cadmium Salts in Acetone Solution," O. K. Kudra, P. P. Turov, Inst Gen and Inorg Chem, Acad Sci Ukrainian SSR, Kiev

"Zhur Fiz Khim" Vol XXV, No 4, pp 391-397

Exam'd deposition of Cd from CdI<sub>2</sub> and CdBr<sub>2</sub> in acetone soln. Found 2 points of inflection on I-E curve at high cathodic cd's, lower potential corr to smooth deposition of Cd, higher to formation of porous black deposit. Diln produced little variation in former case, considerable in latter. Assumed existence of new cathodic process, probably discharge of complex cations, in latter case.

LG

180T20

USSR/Chemistry - Electrodeposition of Metals May 51

"Decomposition Potentials of Acetone Solutions of Iron and Mercury Salts," O. K. Kudra, "P. P. Turov, Inst Gen and Inorg Chem, Kiev, Acad Sci Ukrainian SSR

"Zhur Fiz Khim" Vol XXV, No 5, pp 519-522

Potential current curves of acetone solns of  $FeCl_3$ ,  $AgI_2$ , or  $HgBr_2$  exhibit 3 steps or waves. In  $FeCl_3$  soln the 3d wave corresponds to depn of black, voluminous metal deposit. A limiting current is reached at this stage. Further polarization of electrode up to 12 v does not result in rev electrode processes, i.e., the solvent does not decompose. With 19075

USSR/Chemistry - Electrodeposition of Metals May 51  
(Contd)

$HgI_2$  or  $HgBr_2$ , waves corresponding to approx 2.25 v are accompanied by copious development of gases, showing that solvent participates in reactions at electrode.

KUDRA, O.K.

LC

19075

## USSR/Chemistry - Electrodeposition of Metals May 51

"Decomposition Potentials of Acetone Solutions of Cobalt Salts," O. K. Kudra, P. P. Turov, Inst Gen and Inorg Chem, Kiev, Acad Sci Ukrainian SSR.

"Zaur Fiz Khim" Vol XXV, No 5, pp 513-518.

Potential current curves of  $\text{CoCl}_2$ ,  $\text{CoBr}_2$ ;  $\text{HCl}$ ;  $\text{KBr}$ ;  $\text{CoCl}_2 + \text{HCl}$ ;  $\text{CoBr}_2 + \text{HBr}$  in acetone solns were taken at various cathode current densities. Two cathodic discharge potentials were found at high densities. With  $\text{CoCl}_2$  or  $\text{CoBr}_2$ , the lower of these 2 potentials corresponds to deposition of dense, smooth layer of metal, while at the higher metal black

19074 ✓

USSR/Chemistry - Electrodeposition of Metals May 51  
(Contd)

is deposited. As distinguished from solns of mixts, there was no development of gas, which occurs at a 3d. value of the potential higher than either of the other 2. Dependence of the higher potential on diln varies: with  $\text{CoCl}_2$ , it is (middle) potential on diln; with  $\text{HCl}$  or  $\text{HBr}$ , it is the potential grows with diln; with  $\text{KCl}$  or  $\text{KBr}$ , the potential drops. Results indicate complex ions are present in addn to the simple ones.

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19074

KUDRA, O.

PHASE I

## TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 446 - I

Call No.: AF623815

BOOK

Authors: KUDRA, O., and GITMAN, YE.

Full Title: ELECTROLYTICAL PRODUCTION OF METAL POWDERS

Transliterated Title: Elektroliticheskoye polucheniye metallicheskikh poroshkov

## Publishing Data

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Publishing House: Publishing House of the Academy of Sciences,  
Ukrainian SSR

Date: 1952 No. pp.: 144 No. of copies: 3,000

## Editorial Staff

The authors express thanks for valuable assistance to Prof.  
N. N. Voronin, to senior scientific coworkers I. A. Sheka and  
Z. A. Sheka and to Prof. Ya. A. Fialkov, Corr. Mem. of the Acad. of  
Sci., Ukr. SSR, editor of the monograph.

## Text Data

Coverage: The production of metal powders of loose cathode deposits is already used on an industrial scale in the USSR. Accounts of the investigations of Soviet scientists and engineers (Igaryshev, Kudryavtsev, Borok, Bal'shin, Gavrilov, Yesin and Levian, Levin, Loshkarev, Kuz'min and others) are not yet systematized. The authors present this monograph as a first preliminary attempt to generalize the available data

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## Elektroliticheskoye polucheniye metallicheskikh poroshkov AID 446 - I

on the electrolytical production of metal powders.

A large amount of reports dedicated to this problem at the All-Union Electrochemical Conferences (in Ivanovo in 1945, in Kiev in 1948) shows the need in theoretical works. The rather extensive patent literature indicates the increasing demand of industries for electrolytic powders. The monograph is provided with tables and diagrams.

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9. Production of Loose Metal Alloys or Polymetal Powders		130-136
Purpose: For persons interested in the production of metal powders by means of electrolysis		136-138

Facilities: None

No. of Russian and Slavic References: 126

Available: A.I.D., Library of Congress.

3/3

USSR

2 Work on the cathode project at the K. F. Institute. Relative  
Work done at the K. F. Institute (1941-1945) is connected with the work of the  
S. S. R. (1945-1948). The work with 12 references to the  
drawing with the work of the Inst. of Chemistry at Kiev  
ref. Makhov, Tsvetkov, Zvezdin, Kony, Beregov, (1) End  
Bukhturov, (1949, 2-91, K. K. and V. V. V. (1949, 1-170))

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M. K. K. 2

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Lerner, M. E.  
USSR/Chemistry - Decomposition

Card 1/1

Authors : Lerner, M. E., and Kudra, O. K.  
Title : The Intensity of Decomposition of Aluminum Bromide Solutions in Ethyl Bromide.  
Periodical : Zhur. Fiz. Khim. Vol. 28, Ed. 4, 656-660, Apr 1954  
Abstract : Method for decomposing aluminum bromide solutions in ethyl bromide are described together with the observation and recording of the intensity and changes in decomposition by I-V curves. Ten references; tables; graphs; drawing.  
Institution : Kiev Polytechnical Institute.  
Submitted : June 14, 1953

USSR/Chemistry Physical chemistry

Card : 1/1

Authors : Lerner, M. E., and Kudra, G. K.

Title : Decomposition intensities of the aluminum bromide - alkali metal halide - ethyl bromide system

Periodical : Zhur. fiz. khim. 28, Ed. 6, 1006 - 1012, June 1954

Abstract : The decomposition intensities of the ternary  $AlBr_3-MeHal-C_2H_5Br$  system were investigated at different concentrations and current-densities. In addition to two main decomposition intensities, connected with the separation of Al and MeHal, the authors discovered an additional intermediate intensity corresponding to the presence of a complex ion in the solution. The conditions most favorable for ion discharge of the MeHal from ethyl bromide solutions, are explained. Five USSR references. Tables, graphs.

Institution : The Polytechnicum, Kiev

Submitted : June 14, 1953

Kudra, O. K.

USSR/Physical Chemistry - Electrochemistry, B-12

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 518

Author: Kudra, O. K., and Gorodysakiy, A. V.

Institution: Kiev Polytechnical Institute

Title: Method for Investigating the Electrodeposition and Galvanic Cor-  
rosion of Cadmium

Original

Periodical: Izv. Kievsk. politekhn. in-ta, 1956, Vol 17, 179-190

Abstract: In an effort to determine the possible relationship between the quality of electroplating and the current density (*i*) used in its deposition, the preservation of the potential of Cd deposited on Pt, Ag, Cu, and Fe from a 0.1 N solution of CdSO<sub>4</sub> has been investigated as a function of the *i* used in the deposition. The method consisted in establishing the time required for the solution of a given weight of Cd, which was determined from the jump in the potential of the electrode. It is shown that the higher the *i* used in the deposition of a layer of Cd on a foreign surface, the longer the time during which

Card 1/2

USSR/Physical Chemistry - Electrochemistry, B-12

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 518

Abstract: the Cd potential is maintained for the same amount of deposit. This, in the opinion of the authors, is due to the greater compactness of the deposited metal. The opinion is expressed that the new method can be developed and applied to the investigation of electrode and corrosion processes by studying the time during which the potential of the cover metal is maintained.

Card 2/2

KUDRA, O.K., prof., doktor khim. nauk; VRZHOSEK, G.G., aspirant

Part 1: Influence of the intermittent current on the decomposition  
potential of hydrochloric acid. Izv. KPI 20:52-65 '57. (MIRA 11:3)  
(Hydrochloric acid) (Electrochemical analysis)

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000827120013-7

KUDRA, O.K., prof., doktor khim. nauk; VRZHOSEK, G.G., aspirant

Part 2: Influence of ripple current on some anode processes.  
Izv. KPI 20:66-75 '57. (MIRA 11:3)  
(Hydrochloric acid) (Polarography)

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000827120013-7"

KUDRA, O.K., prof., doktor khim. nauk; VRZHOSEK, O.G., aspirant

Part 3: Influence of the anion nature on the drop in decomposition potential while using ripple current. Izv. KPI 20:76-89 '57.  
(Acids, Organic) (Polarography) (MIRA 11:3)

153-58-1-7/29

AUTHORS: Khotsyanovskiy, O.I., Kudra, O.K.

TITLE: Polarographic Investigation of Halide Complexes of Cadmium in Mixed Solvents. Communication 1: Methanol-Water (Polyarografi-cheskoye issledovaniye galogenidnykh kompleksov kadmiya v smeshannykh rastvoritelyakh. Soobshcheniye 1: Metanol-voda)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 1, pp. 43-53 (USSR)

ABSTRACT: As is known, a solvent is not indifferent to the properties of complex compounds. The influence of various solvents on the structure of these compounds is little investigated up till now. The behavior of complex compounds in the mixtures of the solvents is almost less clarified. In this paper the authors describe a systematic polarographic investigation of the influence of aqueous solvents on the properties of some complex compounds of cadmium carried out by them (see table 1 and figure 1). The composition of these compounds and the relative liability of the constants were polarographically investigated. It was found that the addition

Card 1/2

153-58-1-7/29

Polarographic Investigation of Halide Complexes of Cadmium in Mixed Solvents.  
Communication 1: Methanol-Water

of ethyl alcohol causes a displacement of the fields of existence (oblasti sushchestvovaniya) of the investigated complex compounds (see tables 2 to 5). A linear dependence could be found between -10 gK and 1/D in chloride, bromide and iodide complexes of cadmium. There are 5 figures, 5 tables, and 24 references, 20 of which are Soviet.

ASSOCIATION: Kafedra fizicheskoy i kolloidal'noy khimii (Chair of Physical and Colloidal Chemistry) KIEV Polytechnic Inst.

SUBMITTED: September 23, 1957

Card 2/2

5(4)

AUTHORS: Khotyanovskiy, O. I., Kudra, O. K. SUV/153-15-2-1/3

TITLE: Polarographic Investigation of the Halogen Complexes of Cadmium in Mixed Solvents (Polarograficheskaja issledovaniye galogenidnykh kompleksov kadmija v smeshannykh rasvoritelyakh) Communication II. Ethanol-Water (Svedeniye II. Etanol-voda)

PERIODICAL: Izvestiya vysshikh uchebnykh zavедений. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 2, pp 36 - 42 (USSR)

ABSTRACT: In the previous paper by the authors (Ref 1) certain rules governing the changes of the composition and the instability constants of cadmium halo complexes in aqueous methyl alcohol solutions were found. The present paper deals with the explanation of the influence of the nature of the solvent on the complexes if methanol is substituted by its homologs; it forms a logical continuation of the earlier papers. The solutions contained 20.45 and 6% per cent by volume ethanol. Solutions containing LiCl and LiBr -

Card 1/4

Polarographic Investigation of the Halogen Complexes of Cadmium in Mixed Solvents. Communication II. Ethanol-Water

0.1 - 2.0 M, LiJ - 0.01 - 2.0 M, LiNO<sub>3</sub> - 0.1 M, and Cd(NO<sub>3</sub>) - 4.10<sup>-3</sup> M were used for the polarography.

The temperature amounted to 25 ± 0.1°. The method is described in detail in reference 1. Figures 1-3 and tables 1,2 give the results obtained. The half-wave potential of cadmium was displaced with the increasing ethanol content on the background of the indifferent electrolyte 0.1 M LiNO<sub>3</sub> into the more positive range of potentials, as compared to aqueous solutions (Table 1, in agreement with reference 2). In the presence of halogen salts the said potential was displaced into the negative range (Table 2). As the value of the limit current remained about the same, a complex formation must be assumed. The cadmium reduction was in all cases reversible. The composition and the instability constants of the complexes formed were determined according to the same methods as mentioned in reference 1. In the 20% alcohol solution (

Card 2/4

Polarographic Investigation of the Halogen Complexes      507/193-53-2-7/56  
of Cadmium in Mixed Solvents. Communication II. Ethanol-Water

bromides) and in the 45% solution (also for chlorides) the following complexes were found:  $\text{CdCl}_1^+$ ,  $\text{CdCl}_2$ ,  $\text{CdBr}_1^+$  and  $\text{CdBr}_2$ . In alcohol solutions with higher concentrations only the complexes  $\text{CdCl}_2$  and  $\text{CdBr}_2$  occurred. The same complexes as in aqueous solutions were found for iodide complexes of cadmium in a 20% alcohol solution (Ref 1), i.e. with coordination numbers from 1 to 4. With the increase of the alcohol content the equilibrium was displaced in the direction of the coordination saturated complexes. Already in a 65% alcohol solution the complex  $\text{CdJ}_4^{2-}$  dominated within the whole concentration range investigated. From the comparison of the methanol solutions it may be seen that ethanol additions influence the equilibrium displacement of the complexes to a much higher degree than methanol additions. The values of the instability constant decrease with the increase of the alcohol content in the solutions. Between  $-\log K$  and  $1/D$  exists a linear dependence for the complexes investigated.

Card 3/4

Polarographic Investigation of the Halogen Complexes      SOV/1,3-59-2-7/30  
of Cadmium in Mixed Solvents. Communication II. Ethanol-Water

It was proved that the increase of the influence of the alcohol additions of the changes of the instability constant with the increase of the coordination number is bound to the stepwise character of the dissociation of complexes. There are 4 figures, 5 tables, and 9 references, 7 of which are Soviet.

ASSOCIATION: Kiyevskiy politekhnicheskiy institut (Kiyev Polytechnical Institute) K-fedra fizicheskoy i kolloidnoy khimii  
(Chair of Physical and Colloid Chemistry)

SUBMITTED: September 23, 1957

Card 4/4

DOROFEEVA, N.O.; KUDRA, O.K.

Physicochemical investigations of acetone solutions of hydrogen chloride.  
Ukr.khim.shur. 24 no.5:592-598 '58. (MIRA 12:1)

1. Kiyevskiy politekhnicheskiy institut.  
(Hydrochloric acid) (Acetone)

DOROFEEVA, N.G.; KUDRA, O.K.

Physicochemical investigation of ether solutions of hydrogen chloride.  
Ukr.khim.shur. 24 no.6:706-711 '58. (MIRA 12:3)

1. Kiyevskiy politekhnicheskiy institut.  
(Ether) (Hydrochloric acid)

SOV/153-2-3-7/29

5(4)  
AUTHORS: Vdovenko, I. D., Kudra, O. K.

TITLE: On a New Method of Investigating Diffusion Processes

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 3, pp 345-351 (USSR)

ABSTRACT: The determination of diffusion coefficients according to the hitherto used methods, some of which are mentioned, still leads to considerable errors because the temperature can be kept sufficiently constant only with difficulties. For this reason the authors used for the determination according to Skobets and Kavetskiy (Ref 1;) the current impulse which occurs in switching on the electrolysis. The electrolytes were solutions of  $\text{CuSO}_4$ ,  $\text{ZnSO}_4$ ,  $\text{CdSO}_4$  and  $\text{AgNO}_3$  of different concentration (Table). The current density and the period until the occurrence of the first cathode precipitation were measured. A measuring device was developed which is shown by a scheme (Fig 1). Formulas for the computation are deduced. Moreover, test series are carried out in which spherical instead of cylindrical cathodes are used. It could be proved that during

Card 1/2

On a New Method of Investigating Diffusion Processes SOV/153-2-3-7/29

the first seconds of electrolysis the rule of the linear diffusion holds irrespective of the shape of the electrode. There are 2 figures, 1 table, and 16 references, 8 of which are Soviet.

ASSOCIATION: Kiyevskiy politekhnicheskiy institut - Kafedra fizicheskoy i kolloidnoy khimii (Kiyev Polytechnic Institute - Chair of Physical and Colloid Chemistry).

SUBMITTED: March 19, 1958

Card 2/2

• 5(1,2)

SOV/155-2-4-17/32

AUTHORS: Kudra, O. K., Gudovich, N. V.

TITLE: On the Mechanism of the Electroreduction of Lead in Pyrophosphate Electrolytes

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimika i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 4, pp 558 - 561 (USSR)

ABSTRACT: It has been found recently that a certain quantity of anions can be adsorbed on the electrode according to the surface charge sign; later on they are either discharged or repelled. These phenomena are expressed in electrolysis by characteristic polarization curves with decreasing or increasing amperage (Refs 1-7). The investigation of complex electrolytes is interesting from a theoretical point of view if they contain an electroseparating metal among the anions. Cyanogen baths frequently used in electroplating belong to these electrolytes. It can be assumed that the electrocrystallization process in these baths is connected with the immediate metal separation from the anions. The electrolytes mentioned in the title are, in a certain degree, analogous to the cyanogen baths. Above all, diluted solutions were investigated by the authors because T. A. Kryukova (Ref 8) found

Card 1/3

On the Mechanism of the Electroreduction of Lead in  
Pyrophosphate Electrolytes

SCV/153-2-4-17/32

that the specific effect of the anions is more distinct in such solutions. Figure 1 shows polarization curves in solutions with various ratios of pyrophosphate and lead nitrate. The initial concentration was  $K_4P_2O_7$  0.05 m and  $Pb(NO_3)_2$  0.03 m. It can be seen from these data that the amperage decreases rapidly if a potential of 0.600 - 0.615 v is reached. Then the curves pass a minimum and increase again later on. Thus, specific current minima are observed in small electrolyte concentrations on the  $I - \varphi$  curves in the lead reduction from the pyrophosphate complex  $[Pb(P_2O_7)_2]^{6-}$ . The current decrease occurs near the zero charge of lead. Peptone considerably retards the lead reduction. With a certain concentration (Fig 4) the minimum and maximum on the polarization curve are thereby neutralized. This is explained by the formation of a continuous adsorption film of peptone. The presence of foreign cations facilitates the electroreduction of lead from the complex anion mentioned, anions retard it. Cations shift the zero-charge potential in positive direction, whereas anions shift it in negative direction. There are 4 figures and 9 Soviet references.

Card 2/3

On the Mechanism of the Electroreduction of Lead in Pyrophosphate Electrolytes SCV/153-2-4-17/32

ASSOCIATION: Kiyevskiy politekhnicheskiy institut, Kafedra fizicheskoy i kolloidnoy khimii (Kiyev Polytechnic Institute, Chair of Physical and Colloidal Chemistry)

SUBMITTED: March 19, 1958

Card 3/3

KUDRA, O.K.; VDOVENKO, I.D.

Electric timer method for the analysis of solutions. Ukr.khim.  
zhur. 25 no.1:25-31 '59 (MIRA 12:4)

1. Kiyevskiy ordena Lenina politekhnicheskiy institut.  
(Electrochemical analysis)

VRZHOSEK, G.G.; KUDRA, O.K.

Effect of some admixtures on polarization by a ripple current. Izv.  
vys.ucheb.zav.; khim.i khim.tekh. 3 no.6:1008-1010 '60.  
(MIRA 14:4)

1. Kiyevskiy politekhnicheskiy institut, kafedra fizicheskoy i kolloidnoy  
khimii.  
(Polarization (Electricity)) (Electrolysis)

87508

S/073/60/026/001/006/021  
B004/B054

26.1620

AUTHORS: Vdovenko, I. D. and Kudra, O. K.

TITLE: Method of Studying Diffusion in Electrode-near Layers in the  
Absence of Current

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, 1960, Vol. 26, No. 1,  
pp. 36-40

TEXT: The authors describe a new method of studying free diffusion in  
very thin, electrode-near layers. It is based on a sudden impoverishment  
of the electrolyte on the cathode during short-termed electrolysis at  
high amperage, and on observing the balance of concentration when the  
current is switched off. Fig. 1 shows the circuit of the measuring  
apparatus. The time relay 1 has a contact pair closed in the normal state,  
and one which is open. The closed contact pair closes the d.c. circuit to  
which the electrolyzer 7 is connected. The contact pair of relay 2, which  
is open in the normal state, is connected in parallel with the former  
contact pair. The winding of this relay is connected with the contact pair  
of relay 1, which is open in the normal state. The seconds counter 4 is

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Method of Studying Diffusion in Electrode-near Layers in the Absence of Current

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B004/B054

connected with the circuit of the second contact pair of relay 2 and of the tube relay 3. The following process is conducted: The time relay 1 is adjusted for a period within which a black metal precipitate becomes visible on the cathode and the concentration in the electrode-near layer practically vanishes. When the time has elapsed, relay 1 switches off electrolyzer 7. At the same time, relay 2 is switched on, which again switches off after a given time, and switches on the electrolyzer and the seconds counter. After this process, which corresponds to the formation of a precipitate on the cathode, the terminal potential of the electrolyzer rises, and the contacts of the voltmeter 6 are closed, whereby the tube relay opens and the seconds counter is switched off. Thus, amperage and duration of electrolysis are fixed. Moreover, the circuit contains a current reverser 8, which reverses the sense of current, again dissolves the precipitate, and makes the apparatus ready for the next experiment. The amperage is adjusted by rheostat 9 and milliammeter 5. The experiments were made at 18°C with zinc-, cadmium-, and copper salts  $C_D$  =  $a \cdot 0.5 \cdot A / i t^{0.5}$ . It was found for the amount of substance diffused,  $C_D$  is the concentration of the diffused substance in moles/l.  $i$  the current

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Method of Studying Diffusion in Electrode-near Layers in the Absence of Current S/073/60/026/001/006/021  
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density ( $\text{a/cm}^2$ ),  $\tau$  the duration (sec) of the analysis, calculated from the second switching-on of the electrolyzer until the appearance of the dark precipitate, and  $a$  and  $A$  are constants depending on the salt used. The following was stated: With rising concentration of the electrolyte, more substance diffuses, i.e., the rate of concentration balance is directly proportional to the initial concentration. In dilute solutions, the concentration is balanced within 30-35 seconds. Experiments with equimolar solutions of various salts showed that the diffusion rate depends on the type of anion (Fig. 4). D. N. Gritsan is mentioned. There are 4 figures and 8 references: 5 Soviet, 2 British, and 3 French.

ASSOCIATION: Kiyevskiy ordena Lenina politekhnicheskiy institut (Kiyev  
"Order of Lenin" Polytechnic Institute)

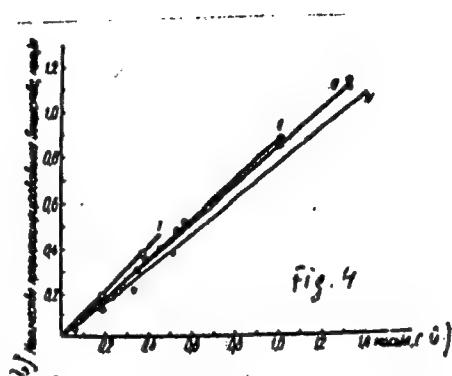
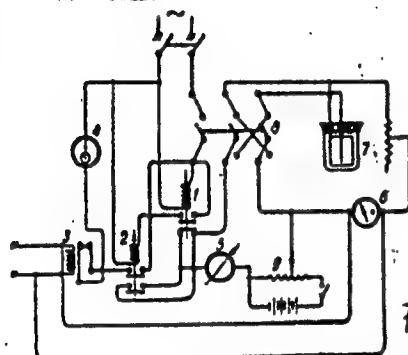
SUBMITTED: October 27, 1958

Legend to Fig. 4: Effect of the anion on the diffusion rate. I:  $\text{CdBr}_2$ ; II:  $\text{CdCl}_2$ ; III:  $\text{CdSO}_4$ ; IV:  $\text{Cu}(\text{NO}_3)_2$ ; a) concentration, moles/l, b) amount

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of substance diffused, moles/l.

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VRZHOSEK, O.O.; KUDRA, O.K.

Effect of temperature on polarization in the presence of pulsating current. Ukr. khim. zhur. 26 no.5:562-564 '69. (MIRA 13:11)

1. Kiyevskiy ordena Lenina politekhnicheskiy institut.  
(Polarization (Electricity))

LERNER, M.Ye.; KUDRA, O.K.

Decomposition potentials of nitrobenzene solutions of aluminum bromide and sodium bromides. Ukr. khim. zhur. 26 no.6:719-722 '60. (MIRA 14:1)

1. Kiyevskiy politekhnicheskiy institut i Kiyevskiy institut grazhdanskogo vozduzhnogo flota.  
(Aluminum bromide) (Sodium bromide)

KUDRA, O.K.; GUDOVICH, N.V.

Cathodic polarization in lead pyrophosphate solutions.  
Zhur.fiz.khim. 34 no.7:1616-1621 J1 '60.  
(MIRA 13:7)

1. Kiyevskiy politekhnicheskiy institut.  
(Lead pyrophosphate) (Polarization(Electricity))

LERNER, M.Ye.; KUDRA, O.K.

Decomposition voltages of some metal bromide solutions in  
nitrobenzene. Izv.vys.ucheb.zav.;khim.i khim.tekh. 4 no.3:393-  
396 '61. (MIRA 14:10)

1. Kiyevskiy politekhnicheskiy institut, kafedra fizicheskoy  
i kolloidnoy khimii.

(Bromides)  
(Electromotive force)

S/073/61/027/001/002/002  
B103/B216

AUTHORS: Izbekova, O. V., Belinskaya, L. S., Kudra, O. K.

TITLE: A study of the nickel-pyrophosphate bath

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 27, no. 1, 1961, 118-121

TEXT: The authors have studied the usability of nickel-pyrophosphate baths which in comparison to cyanide baths have the advantages of being harmless and sufficiently stable. They studied the influence of component concentration, temperature and additives on the quality of the nickel deposit. The following additives were tested:  $H_2SO_4$ , HCl, KCl, formalin, phenol, peptone, Seignette salt and urea. The tests were carried out in a single bath or in several baths connected in series (6 x 2.5 x 9 cm, 100 ml volume) with plate-shaped nickel- and copper anodes. The back part of the anodes was isolated by a layer of paraffin or varnish. The electrode potentials were measured by means of a ПНТВ-1 (PPTV-1) potentiometer against a saturated calomel electrode as reference and reduced to a normal hydrogen electrode. The electrolyte composition was so chosen as to give clear and stable solutions. This was the case with solutions consisting

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A study of the nickel-pyrophosphate bath

of 0.05-0.3 mol/l  $\text{NiSO}_4$  mixed with solutions  $\text{K}_4\text{P}_2\text{O}_7/\text{NiSO}_4$  of molar ratio not below 2. At a molar ratio of 2-4, the  $\text{K}_4\text{P}_2\text{O}_7$  concentration had no influence on the appearance of the nickel deposit on copper cathodes at 20°C. Variation of the  $\text{SO}_4^{2-}$  concentration within wide limits affects neither the quality of the nickel deposit nor the current yield. The best coatings were obtained at  $\text{NiSO}_4$  concentrations of 0.17-0.30 mol/l and a current density of 0.5-1.0 a/dm<sup>2</sup>. At current densities around 0.1 a/dm<sup>2</sup> the deposit is whitish with uncovered areas. At 2-3 a/dm<sup>2</sup>, the deposits are black and at yet higher current densities nickel is not deposited at all. A temperature increase widens the permissible current density range. Though hydrogen was discharged simultaneously with nickel, pitting did not occur. The authors ascribe this to the thorough agitation of the electrolyte by the hydrogen bubbles and to the high negative cathode potential. Fig. 1 illustrates the reduction in current yield at 20°C produced by increasing the current density and pyrophosphate concentration. This effect gradually diminishes on further raising the current density and pyrophosphate excess. At lower current densities (approxi

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A study of the nickel-pyrophosphate bath

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B103/B2:6

mately  $0.1 \text{ a/dm}^2$ ) the current yield is hardly affected by the nickel concentration. At higher current densities the yields increase with increasing  $\text{NiSO}_4$  concentration. At 40 and  $60^\circ\text{C}$  and  $0.2 \text{ mol/l}$  of  $\text{NiSO}_4$  the yield is increased considerably by a temperature rise. The authors also found that the diffusibility of pyrophosphate electrolytes (according to the method by Field) is always much greater than that of acidic electrolytes. In service of pyrophosphate baths consisting only of  $\text{NiSO}_4$  and  $\text{K}_4\text{P}_2\text{O}_7$  the nickel anodes become strongly passive and the current yield drops to zero. The authors, however, used the initially mentioned additives. At a current density of  $1 \text{ a/dm}^2$ ,  $2.5 \text{ g/l}$  of  $\text{KCl}$  completely eliminated anodic passivity without detrimental effect to the quality of the deposit. At higher current densities the anode is only partially activated by the same amount of  $\text{KCl}$  and the current yields fall short of 100%. In this case the anode is usually covered by a dark incrustation. At higher temperatures smaller quantities of  $\text{KCl}$  have a lower activating effect, but here too, the anodic current yield at  $2.5-5 \text{ g/l}$  of  $\text{KCl}$  is nearly 100%. Fig. 2 shows the influence of additives on the cathodic polarization. The bath contained  $0.2 \text{ M}$  of  $\text{NiSO}_4$  at a molar ratio of

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A study of the nickel-pyrophosphate bath

S/073/C1/027/001/002/002  
B103/B212

$K_4P_2O_7/NiSO_4 = 2.5$  at  $20^\circ C$ . The zero curve corresponds to polarization in the absence of additives. It is apparent from the curves that up to 10 ml/l of formalin (curve 1) produces an average cathode potential increase of 100 mv and up to 50 ml/l an increase of 150 mv (curve 2). Addition of phenol somewhat reduces polarization at low current densities (up to 1 a/dm<sup>2</sup>). The curves 3 and 4 were taken in presence of 1 and 10 g/l of phenol. The favorable effect of phenol is apparent in the increased luster of the coatings. Addition of 1 g/l of peptone or 1 g/l of urea also increases the cathode potential by 70-75 mv, and 10 g/l of peptone produce an increase of 110-120 mv. 10 g/l of Seignette salt reduce polarization by 30-35 mv. There are 2 figures and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc. The reference to English language publications reads as follows: Vaid J., Rama Char T. L., J. Electrochem. Soc., 104, 460-461 (1957).

ASSOCIATION: Kiyevskiy ordena Lenina politekhnicheskiy institut (Kiev, "Order of Lenin" Polytechnic Institute)

SUBMITTED: July 1, 1959

Card 4/6

3 LEVICH, N.Y.; U.S.A., U.S.

All information on this page is unclassified  
Date 1/7/00 BY 1:121-124 11 (NM, LMS)

1. Availability of info. to public and scholarly institut.  
(See 6.1.1.1)

DOROFEEVA, N.G.; KUDRA, O.K.

Electrochemical properties of some nonaqueous solutions of  
hydrogen chloride. Ukr.khim.zhur. 27 no.3 308-311 '61.  
(MIRA 14:11)

1. Kiyevskiy politekhnicheskiy institut.  
(Hydrochloric acid)

KUDRA, O.K.; TERNOVAYA, N.I.

Investigating physicochemical properties of aluminum chloride  
solutions in ethyl n-butyl ether. Ukr.khim.zhur. 27 no.5:612-615  
'61. (MIRA 14:9)

1. Kiyovskiy politekhnicheskiy institut.  
(Aluminum chloride) (Ether)

TERNOVAYA, N.I.; KUDRA, O.K.

Physicochemical properties of aluminum chloride solutions  
in dibutyl ether. Ukr.khim.zhur. 27 no.5:615-618 '61.

(MIRA 14:9)

1. Kiyevskiy politekhnicheskiy institut.  
(Aluminum chloride) (Ether)

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000827120013-7

MESHKOVA, I.S.; GALINKER, V.S.; KUDRA, O.K.

Load plating with trilom B. Mashinostroenie no.3:77-79 My-Je '62.  
(MIRA 15:7)  
(Lead plating)

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000827120013-7"

VDOVENKO, I. D.; KUDRA, O. K.

Effect of the nature of the solvent on the diffusion of  
electrolytes. Ukr. khim. zhur. 28 no.3:323-326 '62.  
(MIRA 15:10)

1. Kiyevskiy politekhnicheskiy institut.

(Solvents) (Electrolyte solutions)

VRZHOSEK, G. G. [Vrosek, G. G.]; KUDRA, O. K.

Overvoltage of hydrogen evolution on mercury in a ripple current.  
Ukr. khim. zhur. 28 no.5:604-610 '62. (MIRA 15:10)

1. Kiyevskiy politekhnicheskiy institut.

(Hydrogen) (Overvoltage) (Electrodes, Mercury)

GORODYSKIY, A.V.; KUDRA, O.K.

Electrodeposition and galvanic corrosion of zinc. Ukr.khim.zhur. 28  
no.7:812-815 '62. (MIRA 15:12)

1. Kiyevskiy politekhnicheskiy institut.  
(Zinc plating) (Electric corrosion)

LERNER, M.Ye.; KUDRA, O.K.

Discharge potentials for sulfuric acid solutions. Izv.vys.ucheb.zav.;  
khim.i khim.tekh. 6 no.4:588-590 '63. (MIRA 17:2)

1. Kiyevskiy politekhnicheskiy institut i Kiyevskiy institut Grazh-  
danskogo vozduzhnogo flota. Kafedra fizicheskoy i kolloidnoy khimii.

PRIKHODCHENKO, V.G.; SKRIPNIK, V.A.; KUDRA, O.K.

Electrodeposition of small amounts of iron on mercury. Zhur.prikl.khim.  
36 no.2 (344-350 F '63. (M 16:3)

1. Kiyevskiy politekhnicheskiy institut.  
(Iron plating) (Electrodes, Mercury)

KUDRA, O.K.; FIALKOV, Yu.Ya.; ZHIOMIRSKIY, A.N.

Radioisotopic method for determining the transfer numbers in  
secondary systems and individual electrolytes. Zhur. neorg.  
khim. 8 no.7:1737-1741 Jl '63. (MIRA 16:7)

I. Kiyevskiy politekhnicheskiy institut i Institut khimii AN  
Tadzhikskoy SSR.  
(Radioisotopes)  
(Ions---Migration and velocity)

KUDRA, O.K.; FIALKOV, Yu.Ya.; ZHITOMIRSKIY, A.N.

Transfer numbers in the system sulfuric acid - acetic acid.  
Zhur. neorg. khim. 8 no.7:1742-1748 Jl '63. (MIRA 16:7)

1. Kiyevskiy politekhnicheskiy institut i Institut khimii AN  
Tadzhikskoy SSR.

(Sulfuric acid) (Acetic acid)  
(Ions—Migration and velocity)

DOROFEEVA, N.G.; VRZHOSEK, N.I.; KUDRA, O.K.

Electrochemical properties of hydrogen bromide solutions in  
isooamyl alcohol. Ukr. khim. zhur. 29 no.2:156-161 '63.  
(MIRA 16:6)

1. Kiyevskiy politekhnicheskiy institut.  
(Hydrobromic acid) (Isopentyl alcohol)  
(Electrochemistry)

KUDRA, O.K.; ZHITOMIRSKIY, A.N.; FIALKOV, Yu.Ya.

Electric transfer of ions in absolute sulfuric acid. Dokl. AN  
SSSR 151 no.2:377-379 Jl '63. (MIRA 16:7)

1. Kiyevskiy politekhnicheskiy institut. Predstavлено академиком  
V.I.Spitsynym.  
(Ions--Migration and velocity) (Sulfuric acid)

KUDRA, O.K.; FIALKOV, Yu.Ya.; TARASENKO, Yu.A.

Physicochemical analysis of the systems trifluoroacetic  
acid - indifferent solvent. Ukr. khim. zhur. 30 no.4:  
347-353 '64. (MIRA 17:6)

1. Kiyevskiy politekhnicheskiy institut.

ПРИХОДЧЕНКО, В.С. [Frykholdchenko, V.S.]; КУДАР, Г.М.; СКРИПНІК, В.А. [Skrypnyk, V.O.]

Effect of surface-active agents on the kinetics of electrodeposition of iron on a mercury cathode. Sup. Ак. УССР №.120-1624 '63.  
(:ИА 17:9)

1. Kiyovskiy politekhnicheskiy institut. Predstavleno akademikom Академії наук України Ю.К. Делимурским (Delimurs'kym, Iu.K.).

<sup>10</sup> See, for example, the discussion of the relationship between the *laissez-faire* and *liberal* traditions in the United States in the introduction to *Liberalism and the American Tradition* (1991).

System: Thermotropic nitrile-modified polyimide polymer system,  $T_g = 200^\circ\text{C}$ ,  $T_d = 450^\circ\text{C}$ ,  $T_c = 150^\circ\text{C}$ .

MAY 27:11

## 1. Introduction and Motivation for the Thesis

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000827120013-7"

KUDRA, O.K.; FIALKOV, Yu.Ya.; VITOMIRSKIY, A.N.

Transference numbers in the systems formed by water with sulfuric  
and orthophosphoric acids. Zhur. neorg. khim. 9 no.10:2454-2457  
O '64. (MIRA 17:12)

1. Kiyevskiy politekhnicheskiy institut i Institut khimii AN  
Tadzhikskoy SSR.

FIALKOV, Yu.Yu.; TARASHEV, Yu.A.; KUDRA, V.Y.

Physicochemical analysis of binary systems formed with formic acid and esters. Zhur. ob. khim. 31, no.12:3862-3866, D 1964  
(MIRA 18:1)

FIL'KOV, Yu.Ya.; TARAS'KEVICH, V.N.4. REVIEW

Binary systems formed by the crystalline complexes of stannic chloride with inert solvents. Zhur. neorg. khim. 10 no.1, 231-236 Ja '65.

1. Kiyevskiy politekhnicheskiy institut. Submitted Dec. 23, 1963.  
(PRA 18:11)

FIALKOV, Yu.Ya.; ZHITOMIRSKIY, A.N.; KUDRA, O.K.

Report numbers in binary systems formed by sulfuric acid  
with orthophosphoric and monochloroacetic acids. Zhur.neorg.  
khim. 10 no.4:934-938 Ap '65. (MIRA 18:6)

1. Kiyevskiy politekhnicheskiy institut i Institut khimii AN  
Tadzhikskoy SSR.

GALINKER, V.S.; MESHKOVA, L.S.; KUDRA, O.K.

Cathodic polarization during the separation of lead from trilonate complex electrolytes. Ukr. khim. zhur. 31 no.8:866-871 '65.

(MTRA 18:9)

1. Kiyevskiy politekhnicheskiy institut.

FJALKOV, Yu.Ya.; CHVIRUK, O.V.; KUDRA, O.K.

Physicochemical analysis of binary liquid systems formed by  
amines. Part 1: Systems diphenylamine-amines. Zhur. ob. khim.  
35 no.9:1523-1529 S '65. (MIRA 18:10)

1. Kiyevskiy politekhnicheskly institut.

i 36710-65 EAT(m)/EMG(m)/EXP(b)/T/EXP(t) IJP(c) RWH/JD

ACCESSION NR: AP5003121

S/0080/85/038/001/0087/0092 26

25

TOPIC TAGS: alkali metal chloride electrolysis, calcium contamination, calcium removal, lithium electrolysis, lithium calcium separation

ABSTRACT: The migration of microamounts of calcium in LiCl solutions to

Similar tests run with the other alkali metals nitrides showed the migration in these solutions was much slower. It was also not possible to remove sodium amalgam from the solution by the use of a vacuum.

GALINKEE, V.S.; MILOVZOROV, V.P.; KUDRA, O.K.

Study of a new electrolyte for copper electroplating. Ukr.  
khim. zhur. 31 no.9:957-951 '65. (MIRA 18:11)

1. Kiyevskiy politekhnicheskiy institut.

FIAIKOV, Yu.Ya.; TSENDROVSKAYA, V.A.; KUDRA, O.Y.

Temperature viscosity coefficients of binary systems. Ukr.  
khim. zhur. 31 no. 12:1267-1275 '65 (MIRA 19:1)

1. Kiyevskiy politekhnicheskiy institut. Submitted February 24,  
1964.

KUDRAS, W.

KUDRAS, W. Protection against the molding of building timber in warehouses. Przeglad.  
p. 70

Vol. 8, no. 5, May 1956  
PRZEGLAD KOLEJOWY DROGOWY  
TECHNOLOGY  
Warszawa, Poland

So: East European Accession Vol. 6, no. 2, 1957

L 4114-66 EMT(d)/EMT(l)/EMT(c)/EMT(v)/T/EMT(k)/EMT(l)/EMT(h)/EMT(m)

ACC NR:

AP5025667

UR/0167/65/000/004/0011/0018

AUTHOR: Borisoglebskiy, P. V.; Kudratillayev, A. S.TITLE: Physical conditions for an efficient detection of flaws in high-voltage  
pulsed capacitors

SOURCE: AN UzSSR. Izvestiya. Seriya tekhnicheskikh nauk, no. 4, 1965, 11-18

TOPIC TAGS: capacitor, dielectric breakdown, dielectric insulation, flaw detection

ABSTRACT: The physical processes accompanying the rise of partial discharges and local defects in the insulation of high-voltage pulsed capacitors used as energy reservoirs for high pulsed currents are discussed. It is shown that in high-voltage pulsed capacitors with a large number of parallel- or series-connected sections there exists a pre-breakdown state caused by the development of ionization processes due to the presence of such defects as cracks, various inhomogeneities, and air and other inclusions in insulation, which ultimately lead to the dielectric breakdown of the capacitor. The breakdown of one section does not immediately lead to the breakdown of the entire capacitor. The flaw finder may be adjusted to signaling the appearance of the first section with breakdown. The resistance of the breakdown channel of the defective section is a function of the magnitude of current flowing through this channel. The "metallic zero" resistance of the breakdown channel of the

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L 4114-66

ACC NR: AP5025667

defective section may be eliminated by means of a specified number of discharges of the capacitor battery, which includes the capacitor with the defective section, at up to 50% of its rated voltage (with respect to its rated load resistance). As the pulsed discharge current passes through the defective section, a shock wave arises in the breakdown channel and is recorded by appropriate instruments. Orig. art. has: 5 figures, 1 table.

ASSOCIATION: *44 51*  
Moskovskiy ordena Lenina energeticheskiy institut (Moscow Energetics Institute); Uzbekskiy nauchno-issledovatel'skiy institut energetiki i avtomatiki (Uzbek Scientific Research Institute of Energetics and Automation)

SUBMITTED: 10Mar65

ENCL: 00

4/1 55

SUB CODE: EE, 16

NO REP SOV: 004

OTHER: 001

Card

2/2

USSR / Cultivated Plants. Commercial. Oil-Bearing. N-5  
Sugar-Bearing.

Abs Jour: Ref Zhur-Biol., No 6, 1958, 25122

Author : Kudratullayev, A.

Inst : Not given

Title : The Technique of Irrigating Cotton Under the Conditions of the Region About the Middle of the Course of the Amu-Dar'ya River

Orig Pub: Izv. AN TurkmSSR, 1957, No 1, 72-78

Abstract: Tests were made in 1953-1955 at the Chardzhouskaya Experimental Station and in the kolkhoz im. Lenin in Chardzhouskiy Rayon. The length of the furrows, the size of the streams, the gradients, and the row spacing were studied. The best results for the first irrigations were gotten by cutting deep irrigation furrows, which with 60 cm. space between

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APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000827120013-7  
Sugar-Bearing.

Abs Jour: Ref Zhur-Biol., No 6, 1958, 25122

Abstract: rows went to a depth of 14-16 cm. and for subsequent irrigations to a depth of 18-20 cm. With 45 cm. space between the rows for the first irrigations, the furrow depth was 12-14 cm. for the first watering and 16-18 cm. for subsequent irrigation. Information is given on the length of the furrows and the amount of the streams in relation to the gradient of the locality and the physical water properties.

The raw cotton yield increased with the lengthening of the furrow with identical streams and dropped with an increase in the stream. -- P. I. Kizima

Card 2/2

KUDRATULLAYEV, N.K.

Sensitivity of diphtheria bacteria to antibiotics. Zdrav. Turk.  
8 no.2:26-28 F'64 (MIR 17:4)

1. Iz Ashkhabadskogo instituta epidemiologii i gigiyeny (dir.-  
dotsent Ye. S. Popova, nauchnyy rukovoditel' prof. Ye. Ya.  
Gleyberman [deceased]).

CHAIYY, A.A.; KUDRAVETS, G.V.; ALEXEVA, A.I.

Flow sheet for preparing a new mine level under complex mining and geological conditions. Sbor. trud. Inst. gor. delia AN UkrSSR no.13826-31 '63  
(USSR 1737)

KUDRAVETS, G.V., gornyy inzh.

Readers' reply to the article by N.G.Kapustin "New method of determining the most advantageous area of the cross section of workings in flow series of lowest mine pressure"; "Ugol'", 1963, No.9. Ugol' 39 no.12:63-64 D '64. (MIRA 18:2)

1. Donetskij nauchno-issledovatel'skiy ugol'nyy institut.

KUDRAVTSEV, M.G., podpolkovnik meditsinskoy sluzhby; CHUKHLOVIN, B.A.,  
podpolkovnik meditsinskoy sluzhby, kand.med.nauk

Detection of salmonelloses in a group of acute gastrointestinal diseases,  
Voen.-med. zhur. no.7:47-48 Jl '61. (MIR 15:1)  
(SALMONELLA) (INTESTINES...DISEASES)

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SOV/124-59-9-10352

Translation from: Referativnyy zhurnal, Mekhanika, 1959, Nr 9, p 113 (USSR)

AUTHORS: Vlasenko, G.Ya., Deryagin, B.V., Kudravtseva, N.M., Prokhorov,  
P.S., Storozhilova, A.I., Churakov, V.V.TITLE: Flow Methods for Investigating Atmospheric AerosolsPERIODICAL: V sb.: Issled. oblakov, osadkov i grozovogo elektrichestva.  
Leningrad, Gidrometeoizdat, 1957, pp 185 - 188ABSTRACT: Not only the number of particles within the volume unit, but  
also their dimension distribution can be determined by the  
ultramicroscopic flow investigation method. For this purpose,  
an optical discriminator (photometric wedge), making it possible  
to obtain the particle-brightness distribution, was mounted into  
the target illuminating device of an ultramicroscope. A new  
wedge-graduation method is described; the graduation curves of  
the dependence of particle dimensions on the wedge position can  
be obtained quickly, when applying the method mentioned. The  
authors report on the flow method applied to the study of the  
atmospheric condensation nuclei. For this purpose, a simple

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Flow Methods for Investigating Atmospheric Aerosols

accessory device is developed for "revealing" the condensation nuclei containing in the atmosphere. This accessory device consists of an air-moistening chamber and a cooling channel, in which vapor condensation on the condensation nuclei proceeds. The condensation nuclei, enlarged in this way, are carried away by the air current, arrive at the cell of the ultramicroscope, and can be recorded by the observer. The optimum operation conditions of the device were determined experimentally. By the ultramicroscopic flow method, the automation of registering aerosol particles or "revealed" condensation nuclei can be brought about. The design of an automatic counter developed for this purpose is presented. This counter carries out the registration of aerosol particles of high numerical concentrations without failing.

S V. Severin

Card 2/2

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ROZHANSKIY, M.O., starshiy nauchnyy sotrudnik, kand.biologicheskikh nauk.;  
SERGAEVA, A.V., aspirant; KUDRAYASHOV, A.G., aspirant; VITT, V.O.,  
doktor sel'skokhozyaystvennykh nauk, prof.

Changes in the volume of circulating blood in suckling foals [with  
summary in English]. Izv. TSKhA no.1:233-238 '62. (MIRA 15:6)  
(BLOOD VOLUME) (COLTS)

KUDRAYASHOV, A.N., aspirant

Results of crossing cattle breeds of greatest interest in agricultural planning in Vladimir Province. Sbor. nauch. trud. Ivan. sel'khoz. Inst. no.19:260-264 '62. (MIRA 17:1)

1. Kafedra razvedeniya sel'skokhozyaystvennykh zhivotnykh (zav. - prof. V.Ye. Al'tshuler) Ivanovskogo sel'skokhozyaystvennogo instituta.

SHEVCHUK, I.A.; MAYDUKOVA, T.P.; KUDRENKO, I.A.; OLEVINSKIY, M.I.;  
PETRACHKOV, F.A.

Preparation of sodium thiocyanate from hydrogen cyanide  
contained in coke-oven gas. Khim.prom. no.5:375-376 My '62.  
(MIRA 15:7)  
(Sodium thiocyanate) (Hydrocyanic acid)  
(Coke-oven gas)

KUDRENOV, B.I.

In the academic council of the All-Union Scientific Research  
Institute for Road Construction and Maintenance. Avt. dor.  
19 no.10:32 0 '56. (MLRA 9:12)

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KUDRENKO, B.I.; MUDROV, G.G.; POLYAKOVA, A.I.

New requirements of stone materials. Avt.dor. 27 no.1:27-29  
Ja '64. (MIRA 17:4)

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Manufacture of plastic ship furniture by the method of  
compressed air molding. Sudostroenie 30 no.5:44-46 My 1/4.  
(MIRA 17e6)

Kondrak, I. Chemical substance affecting changes the nervous system. p.31.  
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SO; Monthly List of East European Acquisitions. (MEL). DC, Vol. 4  
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(Nitrogen) (Plants)

KUDREV, T.; TYANKOVA, L. [Tiankova, L.]

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1. Submitted by Corresponding Member Y. Milkovski.